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South Santa Clara County Community Engagement Workshop #2

March 29-30, 2011

CALIFORNIA High-Speed Rail

AGENDA

- **Open House** 6:00
- **Welcome & Recap of Recent Activities** 6:40
- **Presentation on Sound and Visual Analysis Methodology** 6:45
- **Next Steps** 7:20
- **Gilroy Station Visioning Process** 7:25
- **Q&A** 7:30
- **Resume Open House** 8:00
- **Adjourn** 8:15

TONIGHT'S WORKSHOP

2nd in a series of community workshops

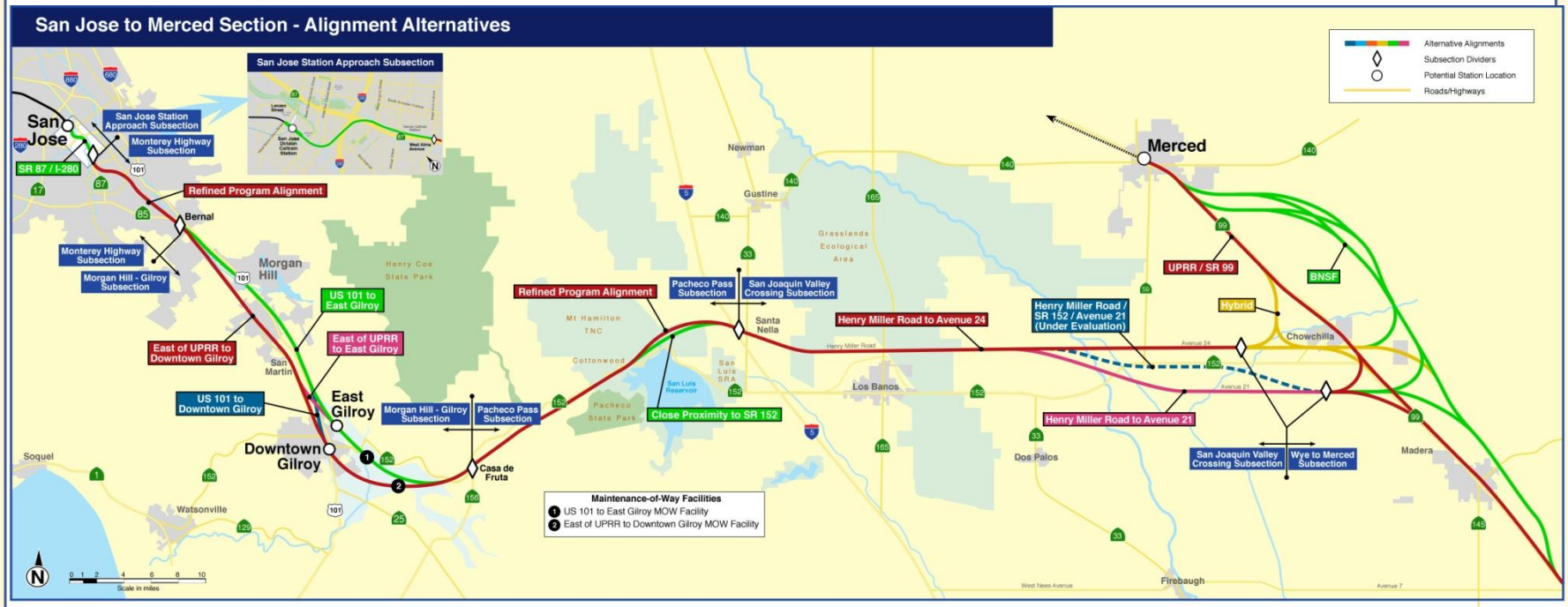
By the end of tonight, we will:

- **Review** key themes from previous meeting, current activities and next steps
- **Provide** an overview on methodology for sound and visual analysis
- **Review** potential future workshop topics

RECAP OF OUR ACTIVITIES

- **2005:** *Final Program Environmental Impact Report/Statement for the Proposed California High-Speed Train System*
- **2008**: *Bay Area to Central Valley High-Speed Train Program Environmental Impact Report/Statement*
- **2010:** *Revised Bay Area to Central Valley High-Speed Train Program Environmental Impact Report*
- **Now**: Release Supplemental AA Report (expected to be in May 2011) to be included in a project Draft EIR/EIS
- **Next**: Release a project Draft EIR/EIS (early 2012)

WORKSHOP #1 RECAP – REVIEW OF ALIGNMENT DEVELOPMENT



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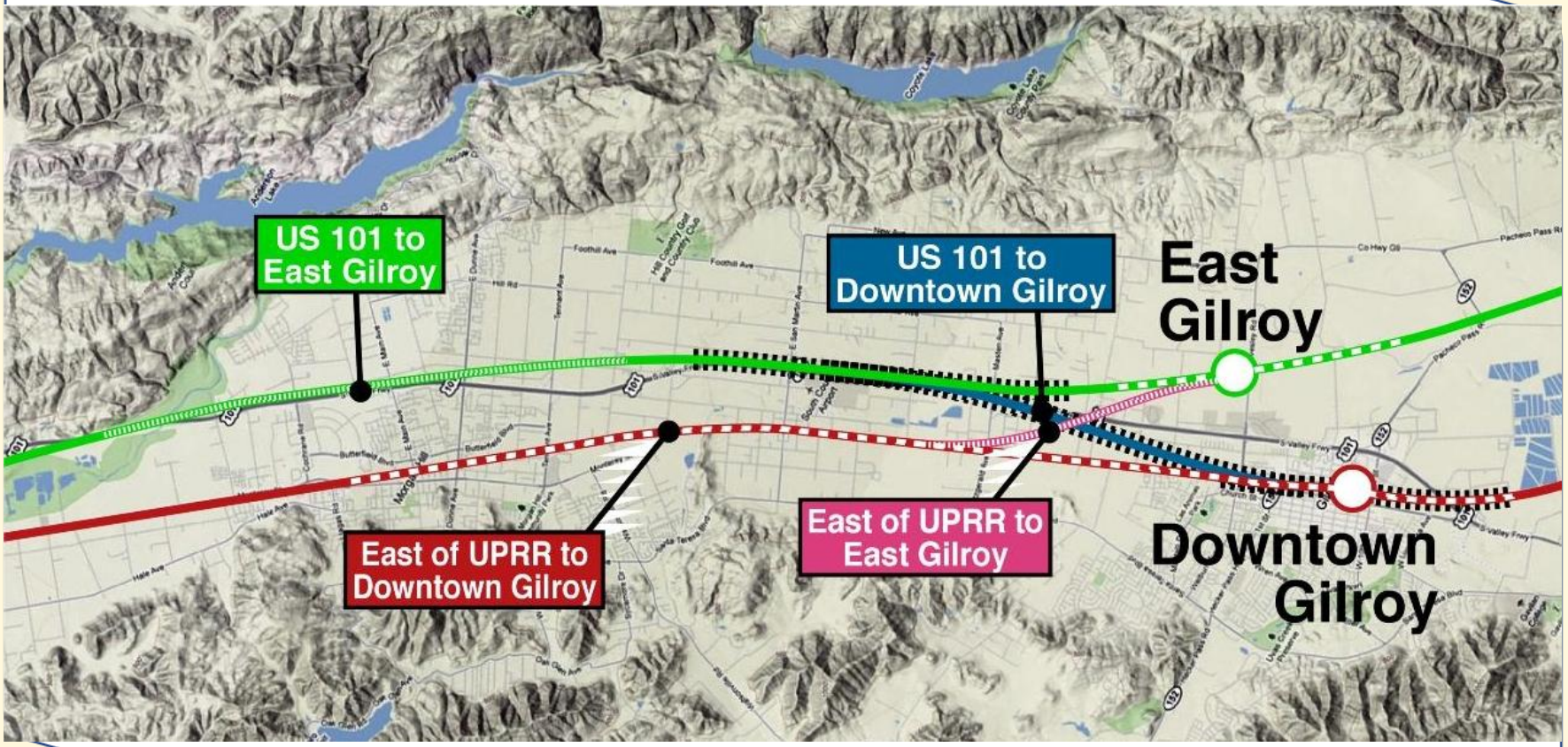
MORGAN HILL-GILROY SUBSECTION



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WORKSHOP #1 RECAP

- **Key themes raised**
  - Environmental and property impacts – residential, commercial, agricultural, open space, wildlife
  - Proposed changes to roadway network
  - Preference for different alignments at different locations
  - Potential mitigation
  - Process, timing, selection of single alignment and station location
  - Statewide issues – ridership and funding

POTENTIAL TOPICS FOR FUTURE WORKSHOPS

- Transportation system, circulation, parking
- Station design during environmental review process
- Continue discussion on environmental analysis
- Mitigation measures
- Process for providing comments on Draft EIR/EIS
- Others based on community feedback

WHY WE NEED IT

Status quo is not an option

Population Growth

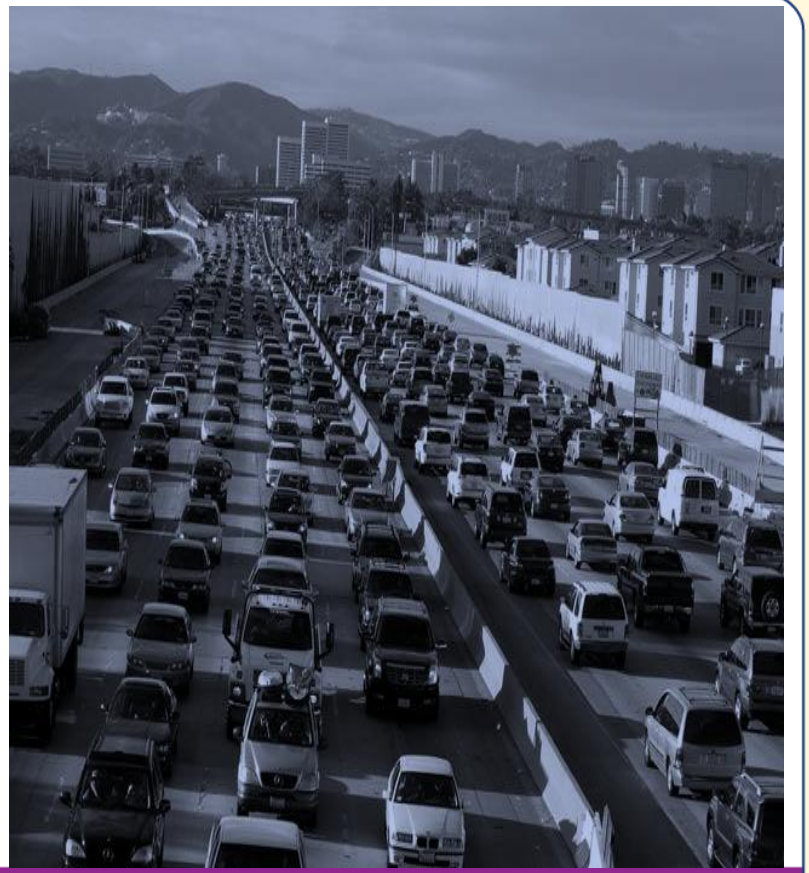
- California's population now: 38 million. By 2035: 50 million

We can build…

- New freeways, airport runways and more departure gates to address our expected population growth

or

- 800-mile high-speed train system, powered by 100% renewable electricity generated by clean wind and solar energy



INITIAL CONSTRUCTION

Why the Central Valley makes sense

Initial infrastructure construction will begin in the Central Valley, the backbone of the system:

- Construction starting in second half of 2012, investing $5.5 billion into the economy
- Potential to create nearly 100,000 jobs
- 120 miles from north of Fresno near Madera to Bakersfield – a choice that:
  - Meets state and federal requirements
  - Gives the greatest flexibility to build both north and south as funding becomes available
  - Constitutes the backbone of a system that will reach across the whole state

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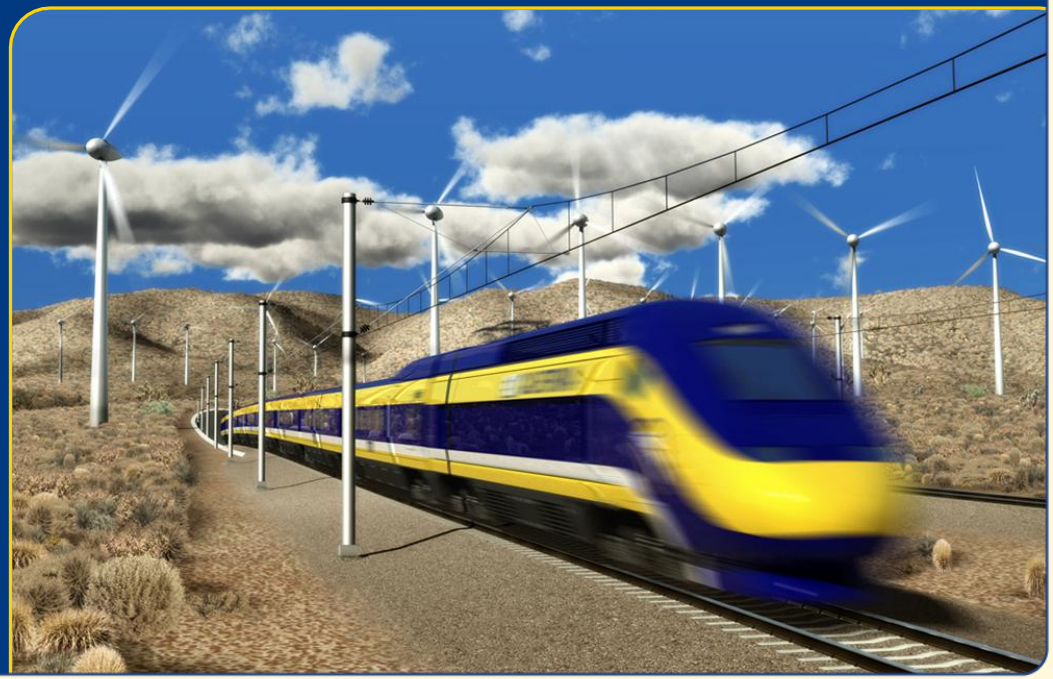
SOUND AND CALIFORNIA'S HIGH-SPEED TRAINS



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SOUND AND CALIFORNIA'S HIGH-SPEED TRAINS

- We understand that sound is a key concern.
- The Federal Railroad Administration has rigorous procedures to measure sound that the Authority will follow.
- The Authority will work with the public and partner agencies to consider ways to mitigate significant sound impacts.

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SOUND ANALYSIS METHODOLOGY

- **Identify** high-speed train sound sources
- **Identify** locations for sound measurements
- **Conduct** sound measurements
- **Analyze** impacts
- **Identify** potential mitigation

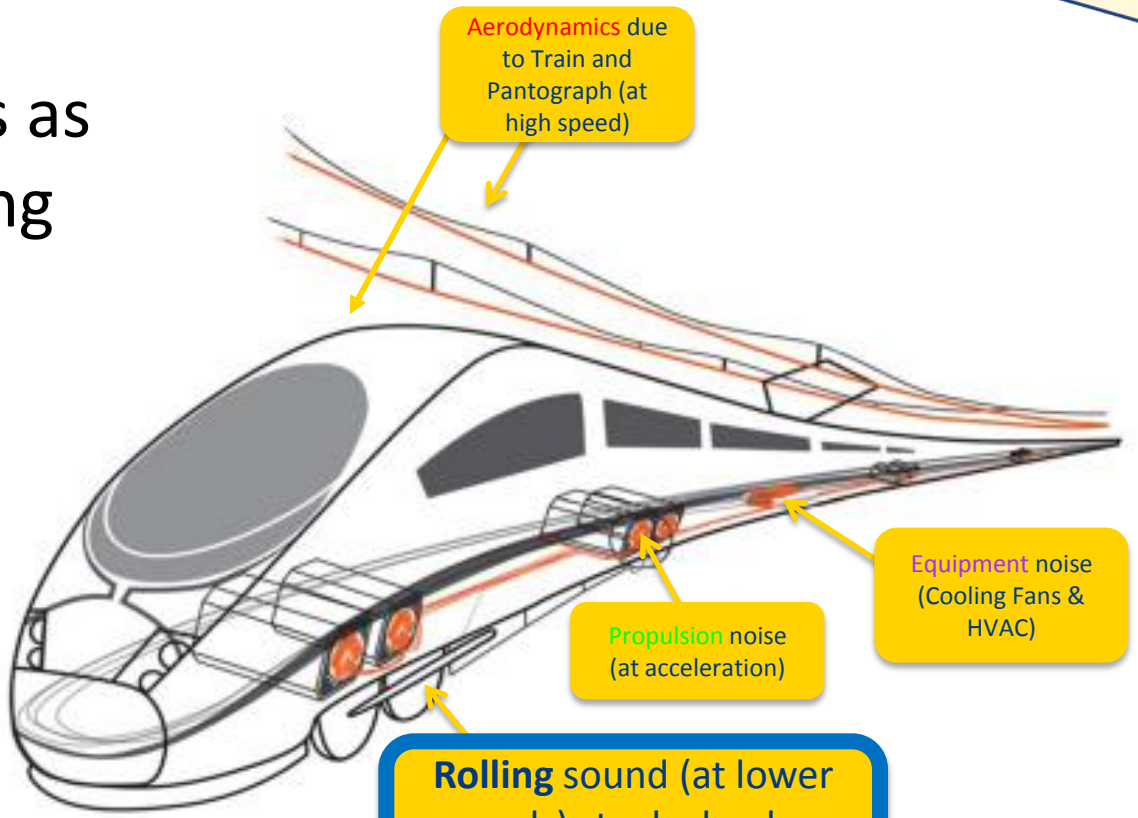
SOUND ANALYSIS TERMINOLOGY

- **dB** = decibel (dB)
- **dBA** = A_weighted decibel (dBA)
- **Leq** = One hour equivalent sound (Leq)
- **Ldn** = Day night sound level (Ldn)

  + 10 dB ~ twice more

HIGH-SPEED TRAINS CREATE FOUR KINDS OF SOUND

Rolling – sound from the wheels as trains move along the tracks.



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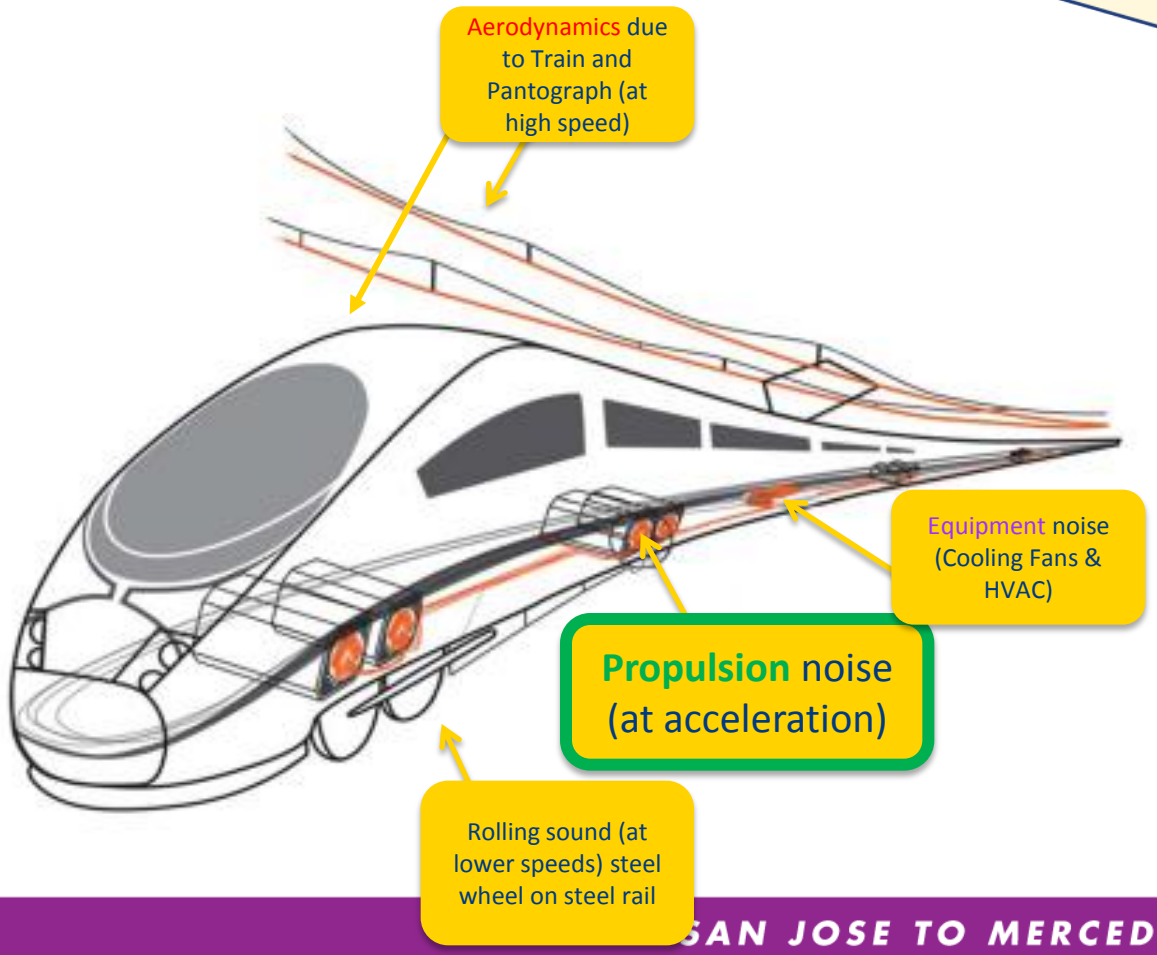
HIGH-SPEED TRAINS CREATE FOUR KINDS OF SOUND

Propulsion – sound from motors and gears that make the train move.



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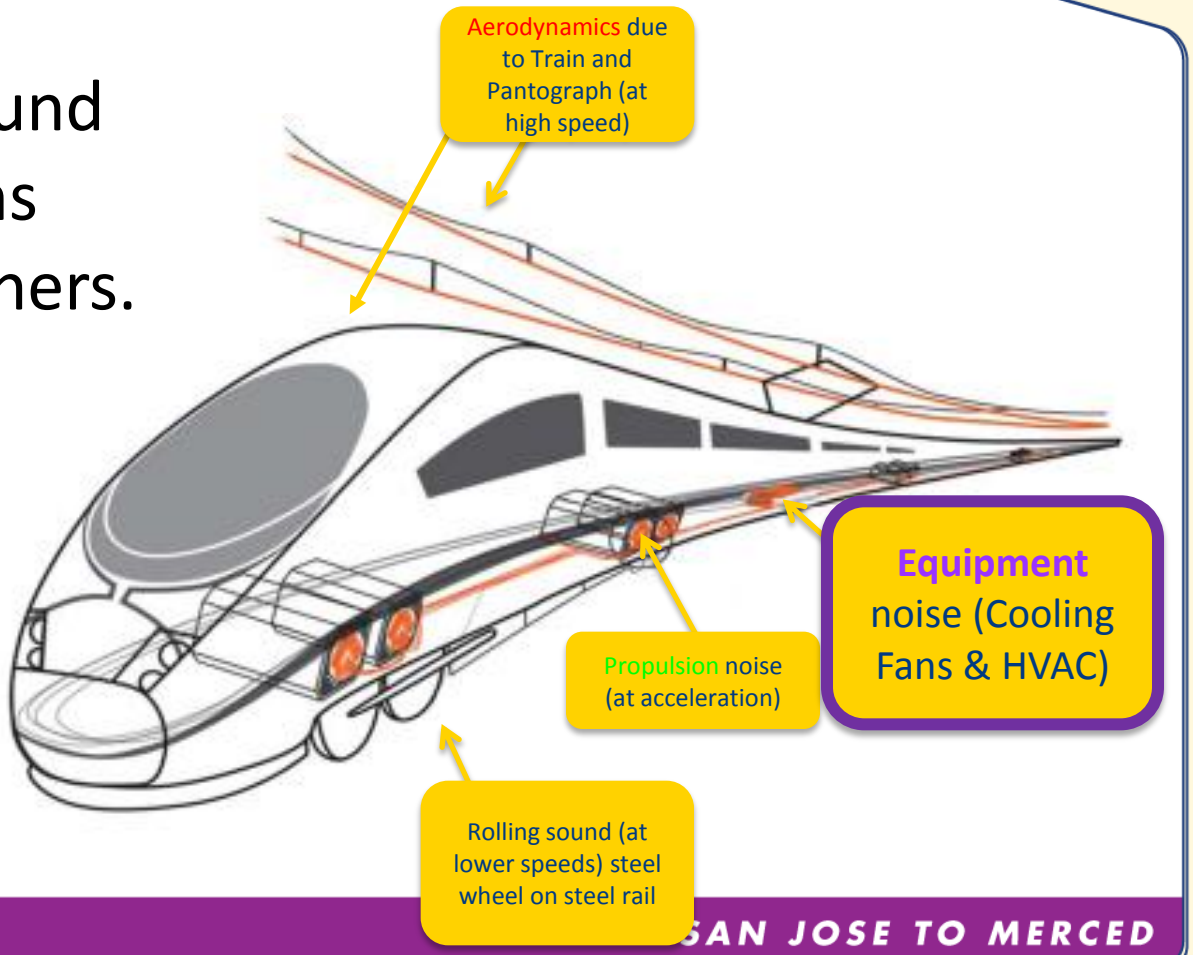
HIGH-SPEED TRAINS CREATE FOUR KINDS OF SOUND

Equipment – sound from cooling fans and air conditioners.



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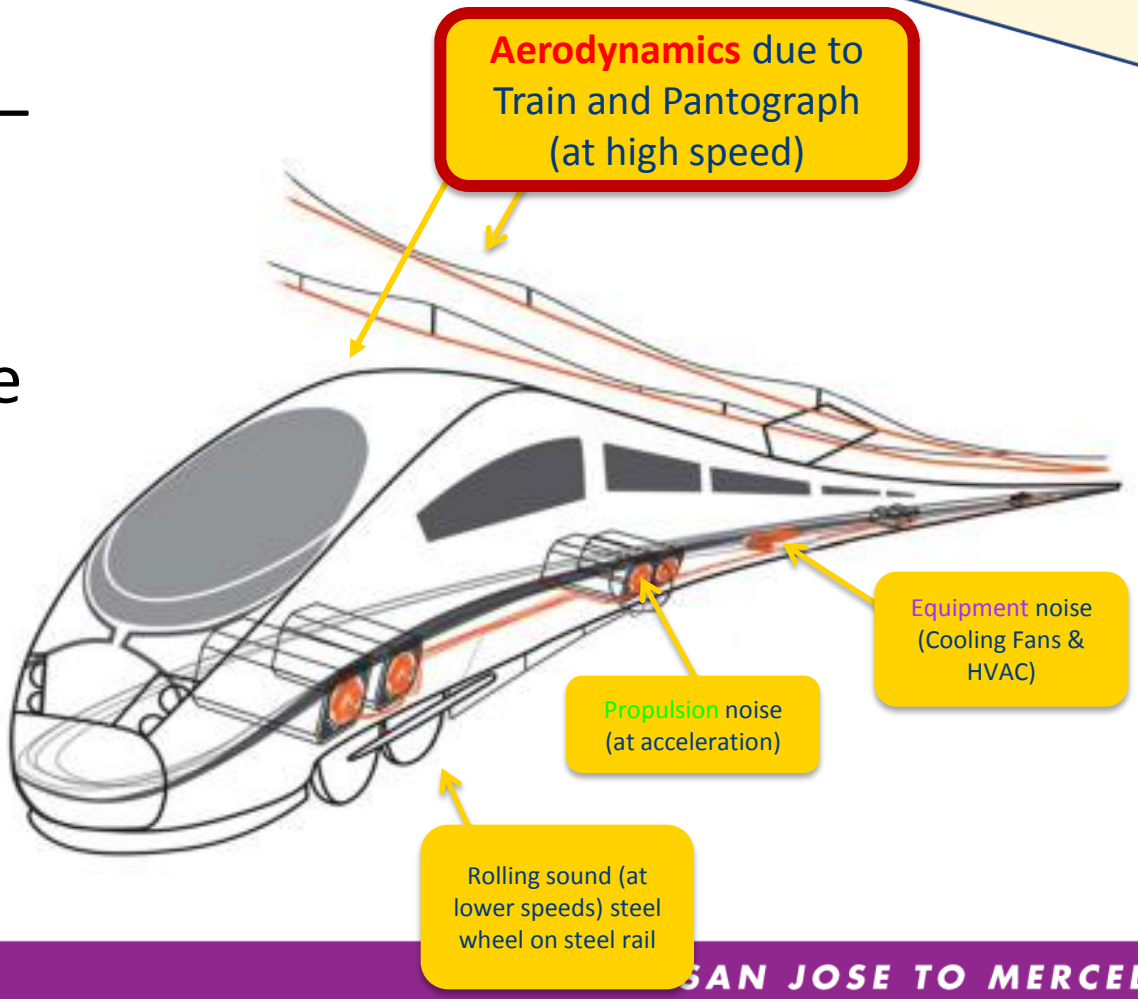
HIGH-SPEED TRAINS CREATE FOUR KINDS OF SOUND

Aerodynamics – sound from the flow of air moving past the train at high speed.



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THOROUGH ENVIRONMENTAL ANALYSIS

The review will look at two key measurements:

- *One-Hour Equivalent Sound Level*

- *Day-Night Sound Level*

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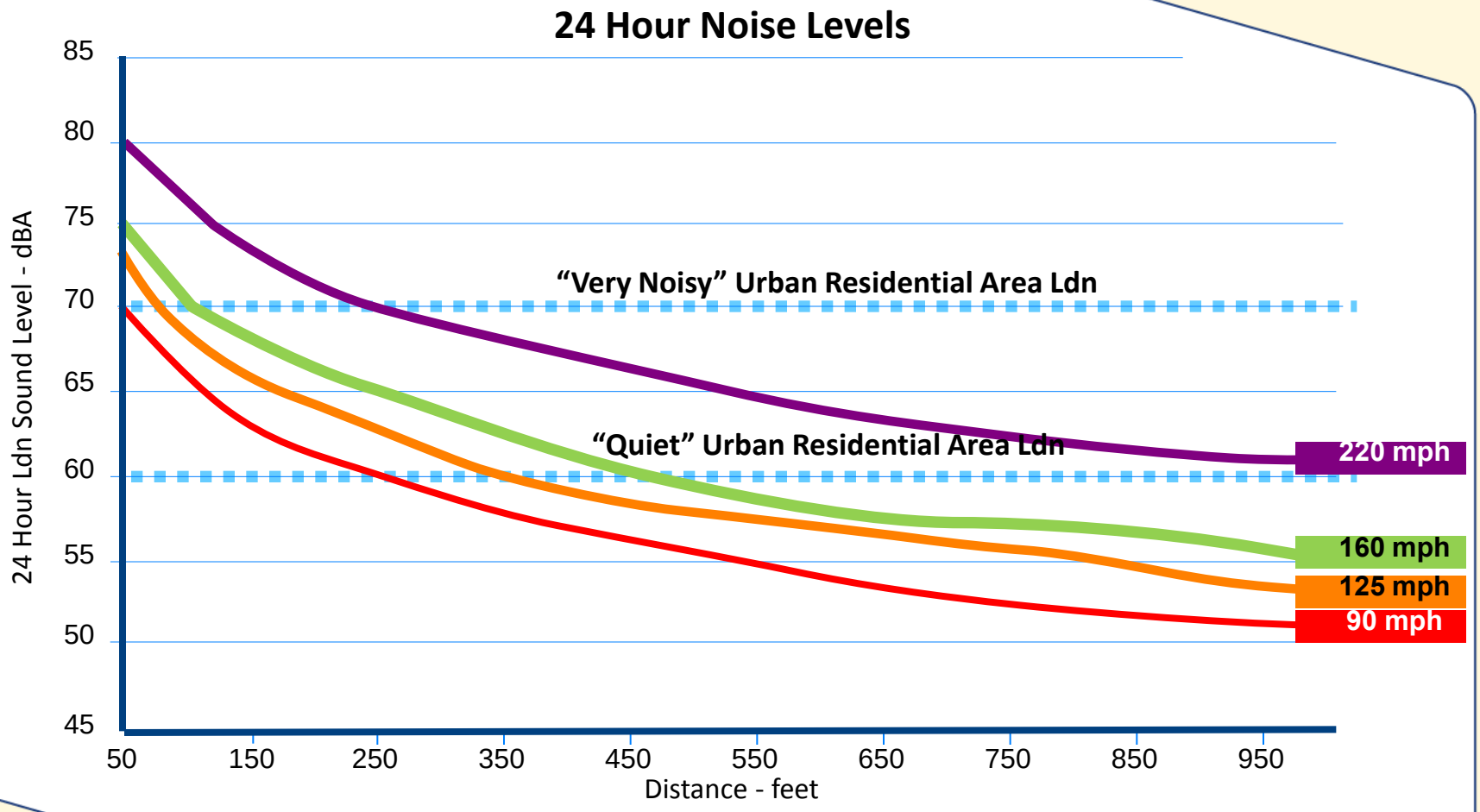
THOROUGH ENVIRONMENTAL ANALYSIS

- ***One-Hour Equivalent Sound Level***, which measures the average of moment-to-moment fluctuations in sound **over a single hour** – taking into account both the number of trains and the time they take to pass by – the best measure for assessing the impacts on offices, parks, schools, and libraries.

THOROUGH ENVIRONMENTAL ANALYSIS

- ***Day-Night Sound Level,*** which is average of sound fluctuations **over a full 24 hours**, taking into account the heightened sensitivity in residential areas to sounds made during the night.

HERE'S WHAT YOU CAN EXPECT – WITHOUT MITIGATION



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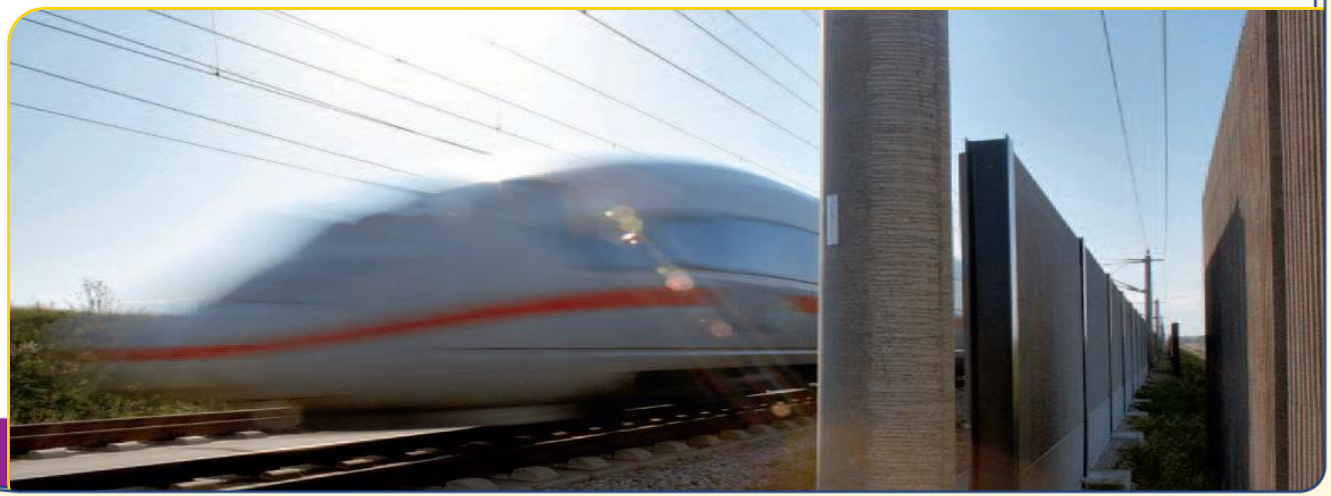
FAST TRAINS MAKE FOR SHORTER SOUNDS

A train moving at 220 mph – the top speed of California's high-speed trains – will be heard for about **four seconds**

By comparison….

A 50-car freight train traveling at 30 mph can be heard for **one minute**



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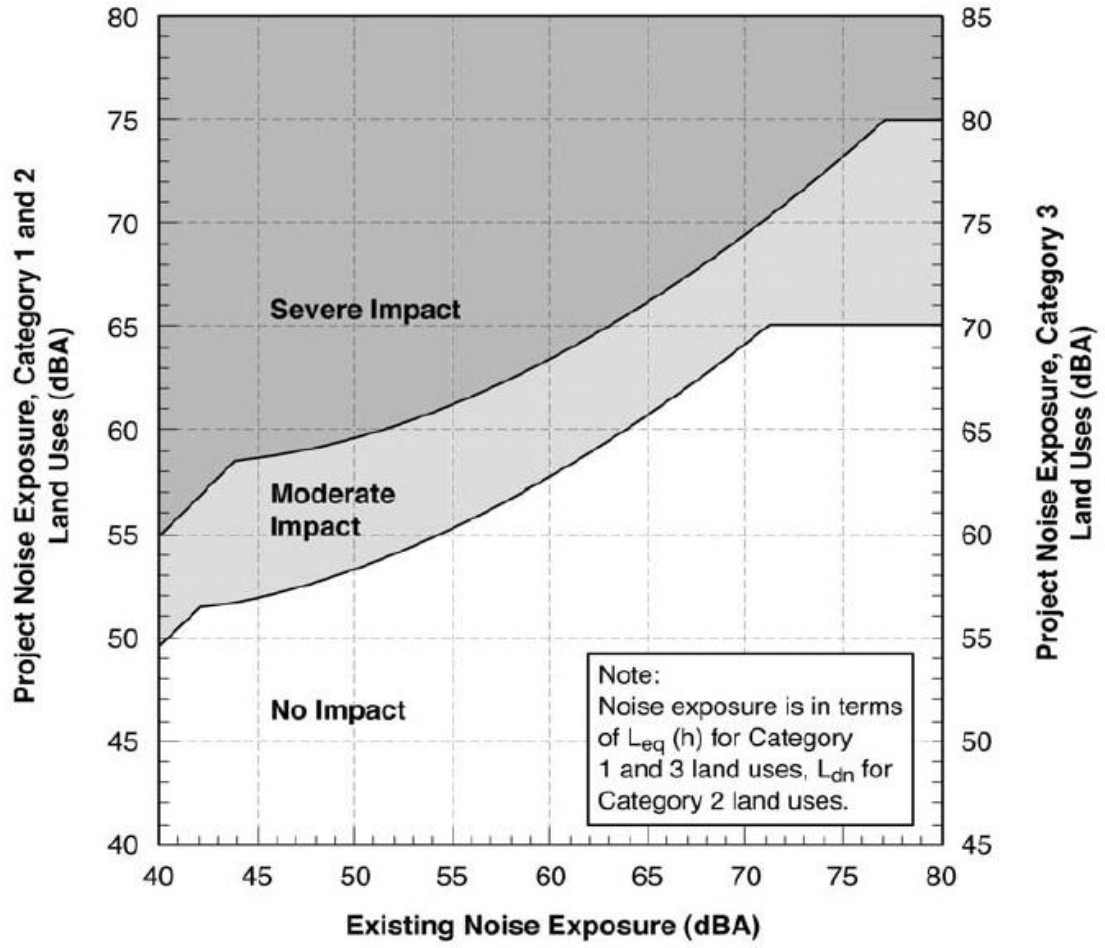
SOUND ANALYSIS METHODOLOGY

- Noise sensitive areas identified along the alignment
- Short term (20 min) and long term (at least 24 hrs) noise measurements conducted at representative sites to establish existing sound levels
- Average one hour or 24 hour sound generated by trains calculated using FRA procedure

NOISE IMPACT DETERMINATION



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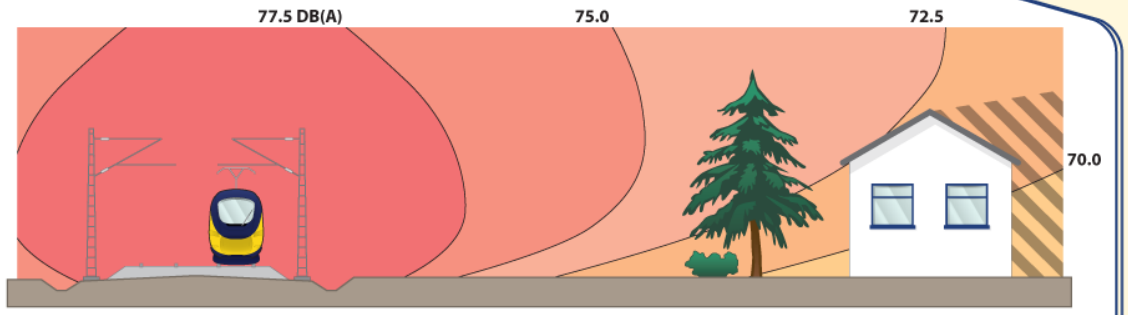
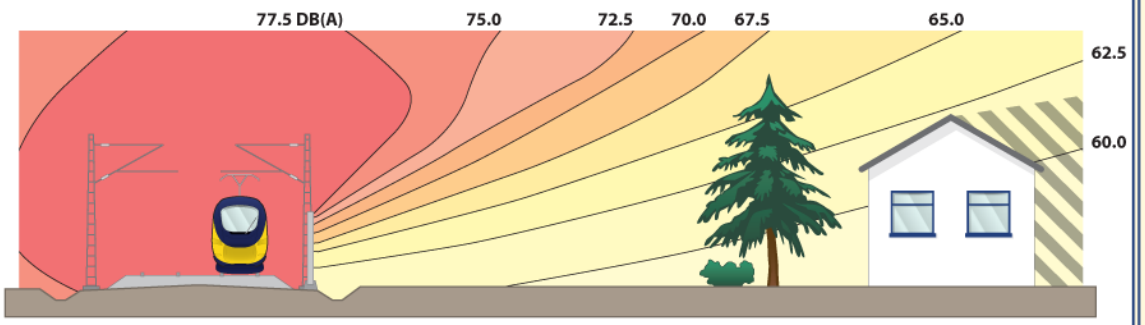
COMMITMENT TO SOUND MITIGATION – ENGINEERING AND DESIGN

- For a train traveling less than 160 mph, a **6 to 12-foot sound barrier** will **reduce noise by 5 to 9 decibels** (the human ear perceives a 10-decibel reduction as cutting the sound in half).



Noise levels without sound barrier



Noise levels with sound barrier

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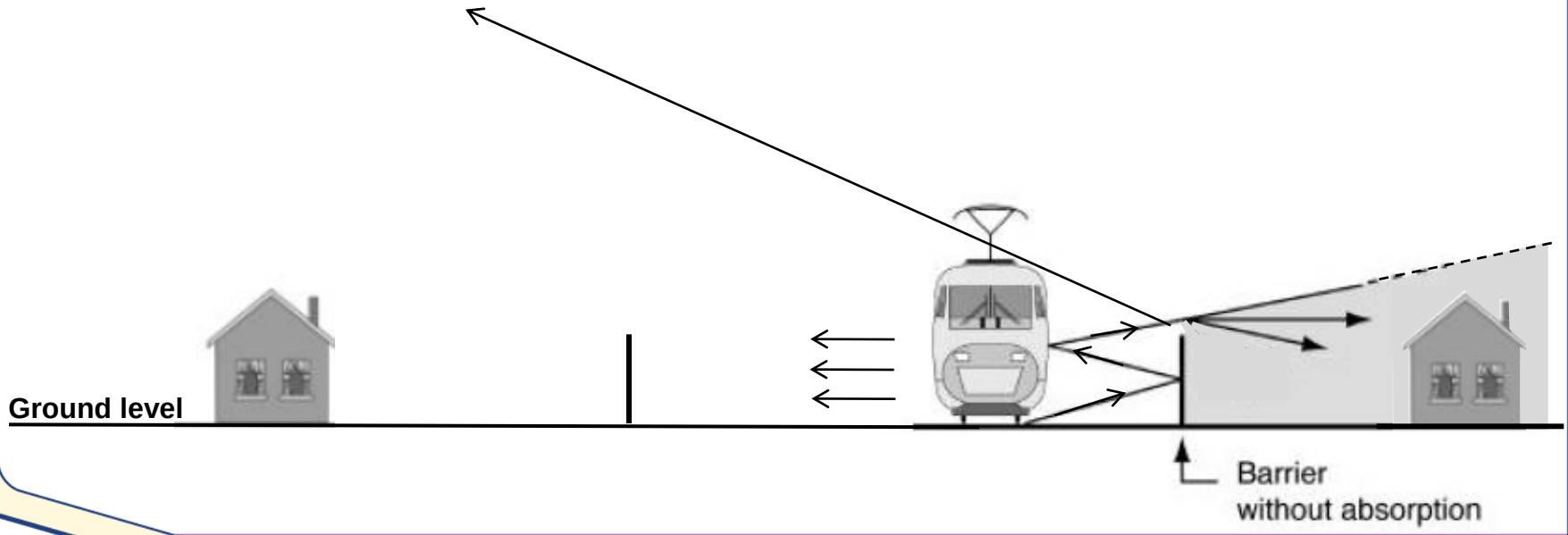
REFLECTED SOUND



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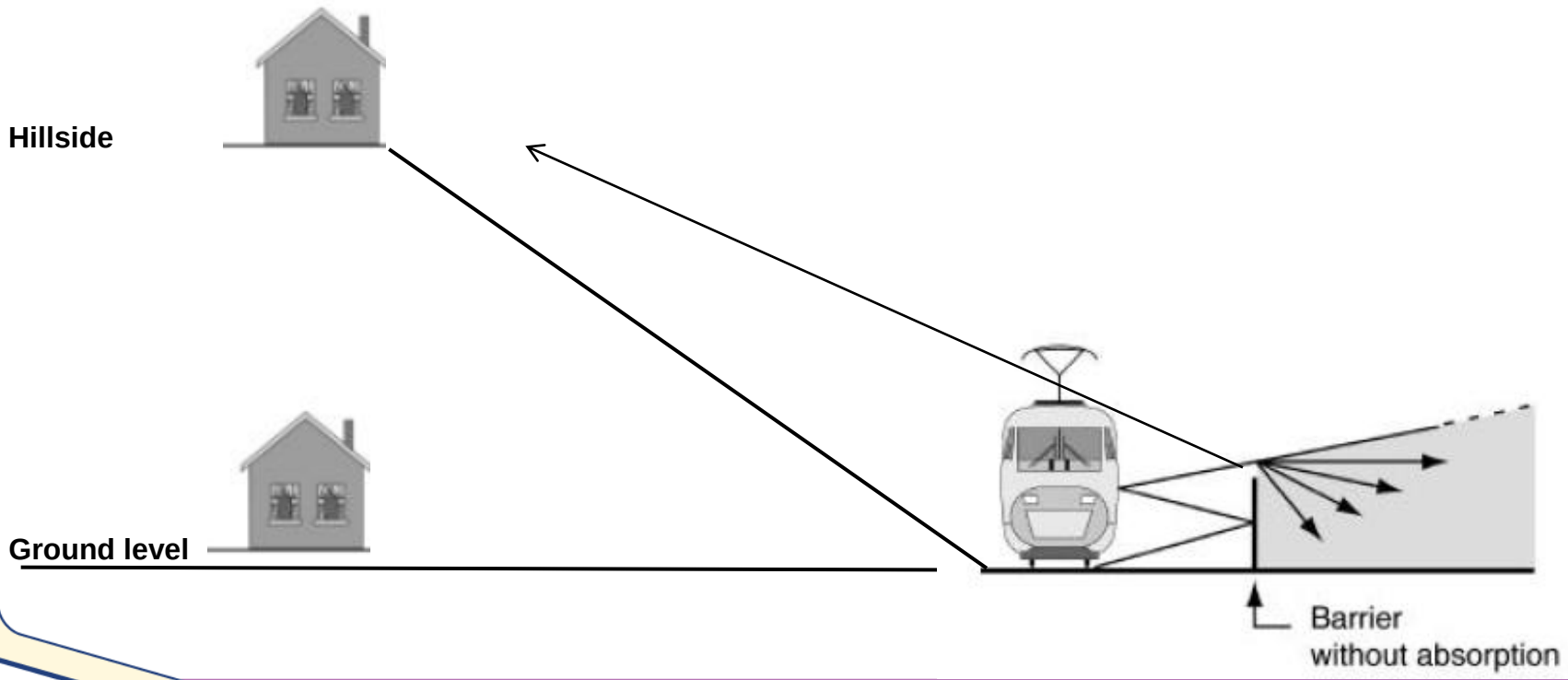

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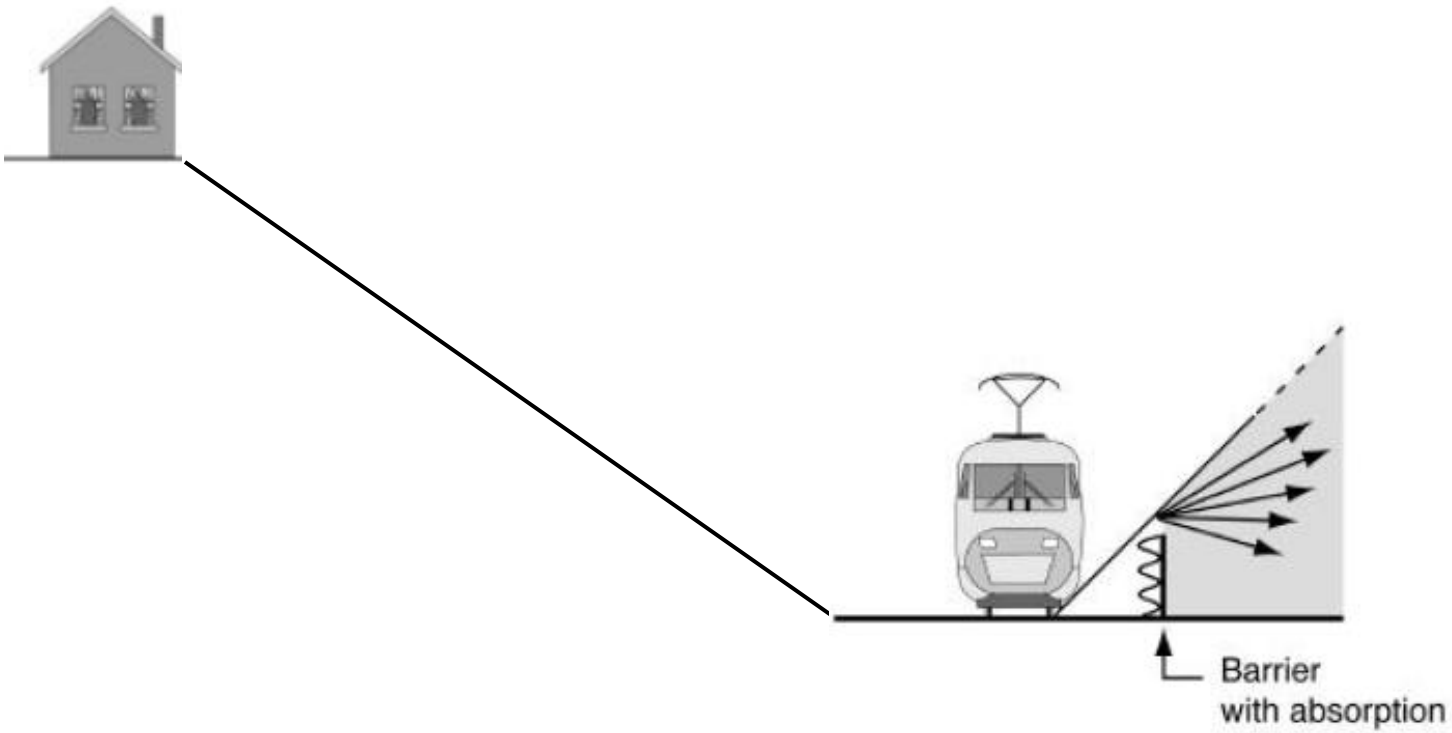
REFLECTED SOUND



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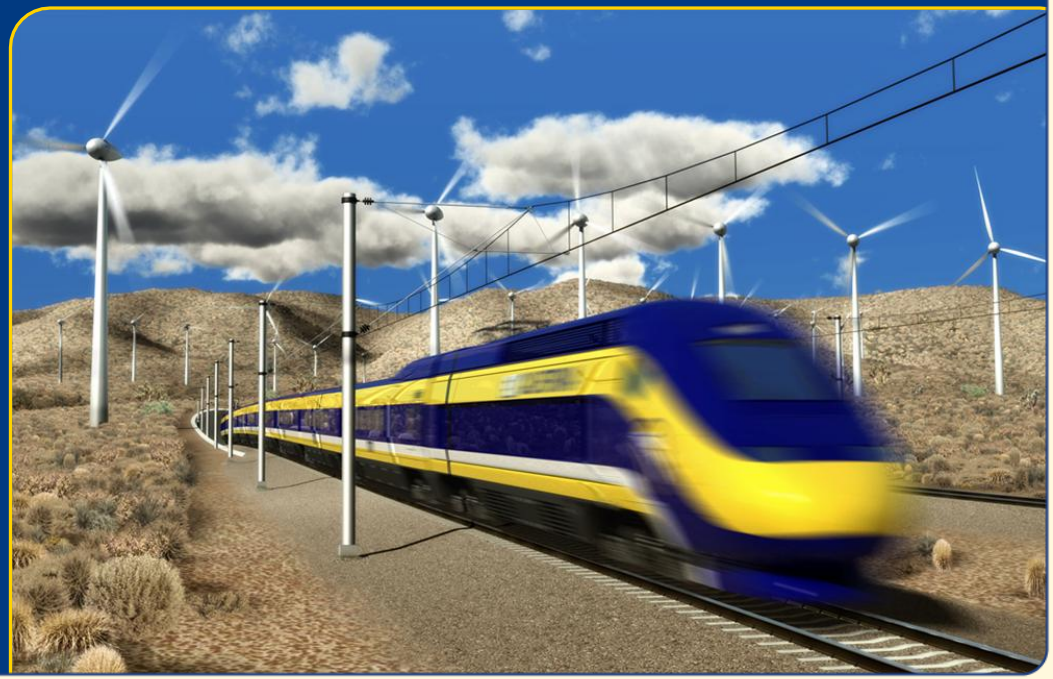
SOUND LEVELS FOR DIFFERENT CONFIGURATIONS

- The sound from a high-speed train **operating on an aerial structure** could be **1 or 2 decibels higher** than at ground level.
- The sound from a high-speed train **operating in an open trench** could be **5 to 7 decibels lower** than at ground level.

AESTHETICS & VISUAL QUALITY



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VISUAL AND AESTHETIC ANALYSIS METHODOLOGY & TERMINOLOGY

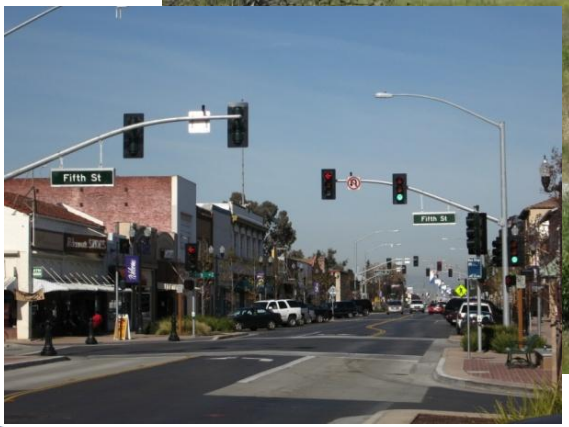
- **Define** Project Setting and Viewshed
- **Identify** Viewers
- **Identify** Viewpoints
- **Identify** Existing Visual Resources:
  Vividness, Intactness, Unity, Light Sources
- **Depict** Visual Appearance with Project
- **Compare** to Existing
- **Identify** Impacts
- **Propose** Mitigations

VISUAL AND AESTHETIC ANALYSIS METHODOLOGY & TERMINOLOGY

Define Project Setting and Viewshed

VISUAL AND AESTHETIC ANALYSIS METHODOLOGY & TERMINOLOGY

Identify Viewers & Viewpoints



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EXISTING VISUAL RESOURCES: VIVIDNESS, INTACTNESS, UNITY

Vividness is the degree of drama, memorability, or distinctiveness of the landscape components as seen in a particular view.

EXISTING VISUAL RESOURCES: VIVIDNESS, INTACTNESS, UNITY

Intactness is a measure of the visual integrity of the natural and human-built landscape and its freedom from encroaching elements.

EXISTING VISUAL RESOURCES: VIVIDNESS, INTACTNESS, UNITY

Unity is the landscape's degree of visual coherence and compositional harmony considered as a whole. High unity frequently attests to the careful design of individual components and their relationship in the landscape or an undisturbed natural landscape.

KEY VISUAL RESOURCES IN THE MORGAN HILL-GILROY SUBSECTION

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FUNDAMENTALS OF VISUAL AND AESTHETIC ANALYSIS

- **Depict** Visual Appearance with Project
- Photo simulations introduce vertical profile options and related visual considerations

Compare to Existing

VISUAL AND AESTHETIC ANALYSIS METHODOLOGY & TERMINOLOGY

- **Identify impacts & propose mitigations**
  - Screen project
  - Integrate surplus property
  - Adapt to local context
  - Sound wall treatments / landscaping

VISUAL AND AESTHETIC IMPACTS AND MITIGATIONS

Mitigation example: Screen

VISUAL AND AESTHETIC IMPACTS AND MITIGATIONS

Mitigation example: Retaining wall with landscaping

PHOTO SIMULATION
MORGAN HILL CALTRAIN STATION

CALIFORNIA High-Speed Rail

PHOTO SIMULATION
MORGAN HILL CALTRAIN STATION

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PHOTO SIMULATION
6TH STREET, DOWNTOWN GILROY

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PHOTO SIMULATION
SR 152 CROSSING

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NEXT STEPS

- Tonight's discussion will inform our continued analysis and future community workshop topics
- Project milestones
  - **Supplemental Alternatives Analysis Report (May 2011)**
  - **Draft EIR/EIS (Early 2012)**
    - The potential impacts and mitigation will be presented
  - **Final EIR/EIS (Late 2012)**
    - A single alignment and station option will be identified
  - **NOD/ROD (Late 2012)**

QUESTIONS/COMMENTS

Contact Us:

- **Website:** http://www.cahighspeedrail.ca.gov
- **Phone:** 1-800-881-5799

Comments:

- **Email:** san.jose_merced@hsr.ca.gov
- **Postal Mail:**
  California High-Speed Rail Authority

  San Jose to Merced Section
  925 L Street, Suite 1425
  Sacramento, CA 95814

Gilroy Station-Area Visioning Process

(Overview of process given verbally by Don Dey, Transportation Engineer, City of Gilroy)

Thank you!